WE CLAIM

1. A silicoaluminophosphate molecular sieve comprising at least one intergrown phase of molecular sieves having AEI and CHA framework types, wherein said intergrown phase has an AEI/CHA ratio of from about 5/95 to 40/60 as determined by DIFFaX analysis, using the powder X-ray diffraction pattern of a calcined sample of said silicoaluminophosphate molecular sieve.

2. The silicoaluminophosphate molecular sieve of claim 1, wherein said intergrown phase has an AEI/CHA ratio of from about 7/93 to 38/62.

3. The silicoaluminophosphate molecular sieve of claim 1, wherein said intergrown phase has an AEI/CHA ratio of from about 8/92 to 35/65.

4. The silicoaluminophosphate molecular sieve of claim 1, wherein said intergrown phase has an AEI/CHA ratio of from about 9/91 to 33/67.

5. The silicoaluminophosphate molecular sieve of claim 1 wherein the molecular sieve having CHA framework type is SAPO-34.

6. The silicoaluminophosphate molecular sieve of claim 1 wherein the molecular sieve having AEI framework type is SAPO-18, ALPO-18 or a mixture of SAPO-18 and ALPO-18.

7. The silicoaluminophosphate molecular sieve of claim 1 wherein said silicoaluminophosphate molecular sieve has an X-ray diffraction pattern having at least one reflection peak in each of the following ranges in the 5 to 25 (2θ) range:

2θ (CuKα)
9.3 - 9.6
12.7 - 13.0
13.8 - 14.0
15.9 - 16.1
17.7 - 18.1
18.9 - 19.1
20.5 - 20.7
23.7 - 24.0

8. The silicoaluminophosphate molecular sieve of claim 5 wherein the X-ray diffraction pattern has no reflection peak in the 9.8 to 12.0 (2θ) range and has no broad feature centered at about 16.9 (2θ).

9. The silicoaluminophosphate molecular sieve of claim 6 wherein the reflection peak in the 17.7 - 18.1 (2θ) range has a relative intensity between 0.09 and 0.40 with respect to the reflection peak at 17.9 (2θ) in the diffraction pattern of SAPO-34, all diffraction patterns being normalized to the intensity value of the reflection peak in the 20.5-20.7 (2θ) range.

10. The silicoaluminophosphate molecular sieve of claim 9 wherein the reflection peak in the 17.7 - 18.1 (2θ) range has a relative intensity between 0.10 and 0.35 with respect to the reflection peak at 17.9 (2θ) in the diffraction pattern of SAPO-34,

11. The silicoaluminophosphate molecular sieve of claim 1 wherein the silica to alumina ratio ranges from 0.01 to 0.25.

12. The silicoaluminophosphate molecular sieve of claim 11 wherein the silica to alumina ratio ranges from 0.02 to 0.20.

13. The silicoaluminophosphate molecular sieve of claim 11 wherein the silica to alumina ratio ranges from 0.03 to 0.19.

14. The silicoaluminophosphate molecular sieve of claim 1, wherein the molecular sieve is comprised of crystalline plates, platelets or stacked platelets.

15. A catalyst comprising the silicoaluminophosphate molecular sieve of claim 1 and a binder.

16. A process for making an olefin product from an oxygenate feedstock comprising contacting said oxygenate feedstock with a catalyst comprising a silicoaluminophosphate molecular sieve comprising at least one intergrown phase of molecular sieves having AEI and CHA framework types, wherein said intergrown phase has an AEI/CHA ratio of from about 5/95 to 40/60 as determined by DIFFaX analysis, using the powder X-ray diffraction pattern of a calcined sample of said silicoaluminophosphate molecular sieve, under conditions effective to form an olefin product.

17. The process of claim 16, wherein the oxygenate is selected from methanol; ethanol; n-propanol; isopropanol; C_4 - C_{20} alcohols; methyl ethyl ether; dimethyl ether; diethyl ether; di-isopropyl ether; formaldehyde; dimethyl carbonate; dimethyl ketone; acetic acid; and mixtures thereof.

18. The process of claim 16, wherein the oxygenate is selected from methanol, dimethyl ether, and mixtures thereof.

19. The process of claim 16, wherein the oxygenate is methanol.

20. The process of claim 16, wherein the selectivity to ethylene and propylene is equal to or greater than 75.0%.

21. The process of claim 20, wherein the ethylene to propylene ratio is equal to or greater than 0.75.

22. The process of claim 20, wherein the selectivity to propane is equal to or lower than 1.0%.

23. The process of claim 16, wherein the selectivity to propane is equal to or smaller than 1.0%.

24. A silicoaluminophosphate molecular sieve exhibiting an X-ray diffraction pattern having at least one reflection peak in each of the following ranges in the 5 to 25 (2θ) range:

2θ (CuKα)
9.3 - 9.6
12.7 - 13.0
13.8 - 14.0
15.9 - 16.1
17.7 - 18.1
18.9 - 19.1
20.5 - 20.7
23.7 - 24.0

and having no reflection peak in the 9.8 to 12.0 (2θ) range and no broad feature centered at about 16.9 (2θ).

25. The silicoaluminophosphate molecular sieve of claim 24, wherein the reflection peak in the 17.7 - 18.1 (2θ) range has a relative intensity between 0.09 and 0.40 with respect to the reflection peak at 17.9 (2θ) in the diffraction pattern of SAPO-34, all diffraction patterns being normalized to the intensity value of the reflection peak in the 20.5-20.7 (2θ) range.

26. The silicoaluminophosphate molecular sieve of claim 24, wherein the reflection peak in the 17.7 - 18.1 (2θ) range has a relative intensity between 0.10 and 0.35 with respect to the reflection peak at 17.9 (2θ) in the diffraction pattern of SAPO-34, all diffraction patterns being normalized to the intensity value of the reflection peak in the 20.5-20.7 (2θ) range.

27. The silicoaluminophosphate molecular sieve of claim 24, wherein the silica to alumina ratio ranges from 0.01 to 0.25.

28. The silicoaluminophosphate molecular sieve of claim 24, wherein the silica to alumina ratio ranges from 0.02 to 0.20.

29. The silicoaluminophosphate molecular sieve of claim 24, wherein the silica to alumina ratio ranges from 0.03 to 0.19.

30. The silicoaluminophosphate molecular sieve of claim 24, wherein the molecular sieve is comprised of crystalline plates, platelets or stacked platelets.

31. A catalyst comprising the silicoaluminophosphate molecular sieve of claim 24 and a binder.